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I. — *On Professor Streitberg's Theory as to the Origin of  
Certain Indo-European Long Vowels.*

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AT the meeting of the American Philological Association in Chicago, July, 1893, Professor Streitberg presented a very interesting paper under the title 'Die Entstehung der Dehnstufe,' a long abstract of which was printed in vol. xxv of the TRANSACTIONS of the Association. The subject was subsequently elaborated with great care and presented anew with exhaustive completeness in the third volume of the 'Indo-germanische Forschungen,' pp. 305-416.<sup>1</sup> We have before us in these pages a concinnate theory regarding an important chapter in ancient Indo-European vowel history. It is written in a style strangely different from that which is ordinarily regarded as appropriate to the esoteric virtuosity supposed to be requisite for this particular phase of history. It is neither learnedly prolix, nor affectedly choppy and curt; his text need not, as is decidedly the case with some prominent writings on Comparative Grammar, frighten the philological layman: it does not at all bring with it that suspicion of a sneer which the average reader is tempted to see behind the unavoidable symbols in the reconstructed I.-E. start-forms

<sup>1</sup> The citations in the sequel are from this fuller treatise.

(grundformen). On the contrary, the style is lucid and unprofessional; the writer is full of enthusiastic conviction, and his enthusiasm imparts to his presentation an almost romantic coloring, which envelops a little oddly questions such as what causes the *e* of Lat. *pēs* to be long, and that of *pēdis* to be short.

The word 'dehnstufe' is defined as referring to the length, or the extreme length, that appears in words of a certain root-group, or stem-group, in the course of the vocalic variations. Thus the vowels *ē* and *ō* in the suffix of *πατήρ* and *δῶτωρ* are regarded as the product of lengthening of the 'normal' *ε* and *ο* in *πατέρα* and *δῶτορα*; these normal vowels may be reduced under certain conditions to zero, yielding the suffixal form *tr* in *πατρ-ός* and Sk. *dā-tr-ī* 'she that gives.' Or, to take a case of a radical vowel, the 'normal' vowels of *πόδα* and *pēdem* exhibit their long grade ('dehnstufe') in Doric *πῶς* (for \**πώς*) and *pēs*, the reduced form being in evidence in Zend *fra-bd-a* 'fore-part of the foot.' It will be understood from this that the 'dehnstufe' deals with that particular class of long vowels which appear most saliently in the nominatives singular of third declension nouns, *i.e.* with those vowels which appear to the ordinary observer of a single I.-E. language as though they had been lengthened for the express purpose of accentuating the superior dignity of the subject-cases, or, at any rate, for the purpose of differentiating them from the oblique cases. The same lengthening occurs elsewhere, of course, but it will be well to remember this as the most characteristic seat of the 'dehnstufe,' especially as far as the classical and Teutonic languages are concerned.

Professor Streitberg is guided towards his propositions by observations that had cropped out in certain quarters of the more recent history of the I.-E. languages. It has been observed variously that a long vowel in a given syllable appears at times to be due to the loss of a short, low tone vowel in a syllable following immediately upon the long vowel. Thus Swedish *brinn* with musical and expiratory stress (something like *brīn*) from older *brinna*; Lithuanian *vėmti* 'vomits' (*i.e.* *vėmti*): Sk. *vāmiti*; Lith. *žėlti* (*i.e.* *žėlti*) 'grow green': Sk.

*hárita*, Obg. *zelenŭ*. Further, Professor Leskien had observed that, in his native dialect of Kiel, the tone quality varies according as the vowel preceding the lost vowel is originally short or long; thus *nĩmt* from O.H.G. *nimit* with 'cut' (stossend) accent, but *stĩmt* from O.H.G. *stimmit*, with 'slurring' (schleifend) accent. These observations, which do not, according to any showing, point to a broad tendency in the physiology of sound, are embodied by Professor Streitberg into a prehistoric law, that must have concluded its operations at a period prior to the branching of the I.-E. tongues, since the individual languages on the one hand present the 'dehnstufe' as a *fait accompli*, on the other hand manifest the reverse of antipathy against the succession of an unaccented syllable after an accented one.

The law, as formulated by Professor Streitberg, is as follows: A short vowel after an accented vowel sometimes falls out. If it does, it compensates the preceding vowel by lengthening it, if itself short; by drawling or slurring its tone, if itself long. For the second of the two cases the examples are exceedingly scarce; there is, it seems, but one example which runs as a red thread through the discussion, and we may present this in illustration:

I.-E. \**diēyo-s* with short accented vowel becomes *diēu-s* after losing its suffixal *o* and compensating the preceding vowel by adding a mora. I.-E. \**nāyo-s* with long accented vowel becomes *nāũ-s* after losing its suffixal *o* and compensating the preceding vowel by adding a mora, rendering it tri-moric. Of this condition the slurring accent (circumflex) is supposed to give evidence.

The law thus stated and illustrated is then applied with rigid consistency and a manipulation of the materials which is always ingenious and skilful, and at times, to say the least, very suggestive. But it is nowhere convincing, and at times so obviously forced as to produce the wish that the writer had endeavored to prove with it a little, but prove that little well. Granted that certain prehistoric long vowels might have originated by lengthening in compensation for the loss of a vowel in a subsequent syllable, is it at all likely that

every I.-E. *ē*, *ō*, and *ā* in correlation with I.-E. *e*, *o*, and *a*, should have thus originated? The author unconsciously relapses into a state of mind, prevalent in an earlier stage of Comparative Grammar, which viewed the earlier conditions of speech as preternaturally simple, and swayed by an automatic regularity denied the depraved children of later days. The result is startling: it sweeps away with one motion almost every monosyllable; there must have been a stage of I.-E. speech in which monosyllabic noun-forms were absolutely unused.

We may observe the rigidity of the view best of all in the author's application of it to the so-called lengthening (*vṛddhi*) of derivation in the Aryan languages. The Sanskrit and, in a lesser degree, the Avestan, present numerous instances of secondary nouns and adjectives which differ from the primary nouns by lengthening one or more vowels of the original stem. Ordinarily the first vowel is lengthened, and it is an especial characteristic of this type, which in Sanskrit has become indefinitely productive, that consonantal stems always add a suffix; thus *çāradā* 'autumnal' from *çarād* 'autumn'; *sām-rājya* 'universal empire' from *sām-rāj* 'universal ruler'; *vāṛjya* 'people's caste' from *vīṣ*, 'clan'; *pāṁśya* 'male' from *pūns* 'man, vir,' etc. Similarly in Zend, where the type is less productive, *haomananiha* 'well-minded' from *\*humananih* 'having a good mind' *daušmanahya* 'evil-minded,' etc.<sup>1</sup> The type of formation existed almost unquestionably in proethnic times (cf. *ōvum*, Hesych. ὄβρον 'egg': *avis* 'bird'), and so our author assumes. It may be regarded as even more certain that the type was started by sparse instances of the co-existence of simpler and fuller stems, the latter tending towards an adjectival and abstract value. But by all means the fuller stem must have had a suffix. From the point of view of the Aryan languages, pairs like *pād*, *pād* 'foot' and *pāda* 'foot,'<sup>2</sup> *vāc*, *vāc* (Greek ὀπός) 'speech' and *vācya* 'to be spoken,' suggest themselves, but the general I.-E. instances

<sup>1</sup> Cf. Bartholomae, *Vorgeschichte der Iranischen Sprachen*, in the 'Grundriss der Iranischen Philologie,' p. 44.

<sup>2</sup> Cf. *πηδον* 'rudder, blade of an oar'?

of this derivative lengthening are too isolated to leave much room for hope that the nest in which the type was hatched will yet be found out. Professor Streitberg seems to have gone peculiarly far afield. On p. 380 he says: "Long-vowelled (dehnstufige) monosyllabic nouns are usually collective nouns in contradistinction from their radically related nouns. Cf. *vác* 'speech' with *vácas* 'word,' *nábh* 'gewölke, gathering of clouds,' with *nábhas* 'cloud,' etc. This contrast shows that in early times lengthening and collective function were in close correlation." In this manner *sāptam* 'a group of seven,' etc., are supposed to have propagated the type *vác* by borrowing its collectively significant long vowel. The entire *vr̥ddhi* of derivation is thus derived by transfer from a few monosyllabic suffixless nouns, and yet the one characteristic feature *to which there is no exception in the entire history of the formation* is that there is not a single monosyllabic noun which is conceived of by any language of the family as a secondary derivative from another independent noun. Moreover, it has come to pass that something very human has overtaken the author. Namely, he seems at this stage to have forgotten that the very point of his dissertation is to show that there are no stems *vác-* and *nábh-*, but only stems *vác-* and *nábh-*, that the long vowel is justified only in the nominative singular, and that it is there a secondary contraction from a dissyllabic *\*uōgo-s*: every other case in the paradigm of these nouns is entitled originally according to his showing only to the short vowel (*uōg-* and *nōbh-*, pp. 324, 334). Of this later on.

This same endeavor to constitute the theory into a cohesive chain whose links shall include all correlative facts—an endeavor altogether praiseworthy when carried on with extreme reserve and caution—leads the author to press his principle unduly in more than one instance of his treatment of the nominatives of consonantal (third declension) stems. Thus he derives I.-E. *kērd* 'heart,' and *sāld* 'salt' from *\*kērod* and *\*sālod* (p. 346). These forms are not only bizarre, but also altogether uncalled for. There is not a trace of a dissyllabic root to be found anywhere; the assumption of two syllables is purely for the sake of the theory. The circumflex

of Greek  $\kappa\eta\rho$  is unfavorable, — the theory demands cut tone ( $\kappa\acute{\eta}\rho$ ), — and has to be explained as due to a transfer from the oblique cases,  $\kappa\eta\rho\sigma$ ,  $\kappa\eta\rho\iota$ , where, we must add, it is again secondary, since the old inflection in all probability was  $*\acute{\kappa}\acute{\epsilon}rd$ ,  $*\acute{\kappa}\acute{\epsilon}rd\text{-}\acute{o}s$  (Lat. *cordis*).

Another instance of undue pressure appears in the treatment of the *-nt*-stems, especially the active participles. Having assumed that the nominatives of consonantal stems which show proethnic lengthening owe their long vowel to a dissyllabic predecessor, the theory is extended to all consonantal stems, even where the lengthening is absent. For, it must be borne in mind, that Professor Streitberg posits I.-E. *\*bheroñts* and *\*dōnts* as the forms of the participle immediately preceding the historical nominatives. Now he further derives these from vocalic nominatives *\*bheróntos* and *\*dóntos*, and this ending *-óntos*, having a long vowel (by position) in the first syllable, must yield *-oñts* with drawling tone as the result. The rest is a chain of analogical disturbances which has resulted in eliminating this start-form without leaving a single undisturbed instance of it; the only dialect which has preserved the drawl-tone is the Lithuanian, e.g. *vešũs*, neuter *vešũ* ‘riding,’ and here the vocalism is secondary, *\*vešũs*, *\*vešũ* being the forms demanded by the theory. The *a*-vowel is due to the oblique cases (accusative *vėžantĩ*, etc.). Moreover, little faith is to be set upon the circumflex of these forms because other consonantal nominatives, *szũ* ‘dog,’ *akmũ* ‘stone,’ *motė* ‘wife (mother),’ *sesũ* ‘sister,’ all of them exhibit secondary drawl-tones. This is true without as well as with Professor Streitberg’s theory [e.g. I.-E. *mātē(r)* from *\*mātēro-s*]. Elsewhere the circumflex is wanting; the assumption that it was present in I.-E. times rests thus upon the most fragile basis imaginable. Equally or even more perplexing is the paroxytonesis of the start-form *\*bherónto-s*. Why not *\*bhéronto-s* (Greek  $\phi\acute{\epsilon}\rho\omega\upsilon$ , Sk. *bhāran*)? The author does not stop to quiet our misgivings. But further, the assumption of a vocalic nominative is justified by the existence of prehistoric stems in *-énto-*, *-ónto-*, *-ntó-* like Obg. *hlíumund* ‘leumund’ = Ved. *çrómata*;  $\acute{\alpha}\text{-}\chi\epsilon\acute{\iota}\mu\alpha\nu\tau\omicron\varsigma$  : Ved. *hemantás* ‘winter,’ etc. Because these

exhibit an extension of an *n*-suffix by a secondary *-to*, he assumes that the participle suffix is without doubt ('es kann meines bedünkens nicht zweifelhaft sein,' p. 350) composite, being an *n*-suffix + *to*-. But these occasional extensions like *çromatá*, *hliumunt* prove only that at all times the adjective-participle suffix *-to* imparted a certain fluidity to stems, reviving, as it were, their congealed or decayed grammatical character. The *-to* of *çromatá*, *hliumunt* proves no more for I.-E. times than the *-to* added at a later period in Latin to prehistoric *-uent*-stems: *-ō(n)sus* [in *formō(n)sus*] for *-vent-to-s*. The author, in fact, throughout his work, neglects the historically secure transitions of consonantal stems to vocalic stems. As well might he have cited Pāli *gacchanto* 'going' nominative singular masculine; *guṇavanto* 'virtuous'; Prākṛit *suṇanto* 'hearing'; Gothic *gibands*, Obg. *frijōnds*, in proof of the vocalic ending of the participle. In historical times the trend is from the so-called non-thematic to the thematic formations: *mi*-verbs become *ō*-verbs, and consonantal stems become vocalic far more frequently than vocalic stems turn consonantal. That there was at an early prehistoric period a consonantal participle of the type *bhéront-*, at a period prior to the glottogonic moment at which the author assumes his contractions, seems particularly likely on account of I.-E. *bhéronti* 'they carry' (Pindar *φέροντι*, Sk. *bhāranti*, etc.). The connection, in some manner, of this word with the strong stem of the participle is nearly, if not quite, the clearest fact in the pre-history of I.-E. word-formation. 'And in the light of the singular forms *bhèresi*, *bhéreti*, the *i* can scarcely be regarded in any light but that of a formative element, and we are thus left with a genuine base *bhéront*, already consonantal in the dimmest past. There is positively, as far as we can detect, nothing in favor of a stem *bherónto*- except the theory which is to be proved by *bherónto*-.

Another very hazardous application of the theory, namely to the Sanskrit noun-compounds with a root-word ending in *t* in the second member, calls for brief comment. The author (pp. 337 ff.) derives Sk. compounds like *paçu-típ* 'eager for cattle,' *madhu-kṛt* 'preparing honey,' each from two vocalic



stems, *pékūo-terpo-* and *médhuo-kerto-*. The rigidity of his preference for the second declension cannot be better illustrated. The stems *péku-* (Sk. *páçu-*, Lat. *pecu-*, Goth. *faihu-*, etc.) and *médhu* (Sk. *mádhu-*, Gr. *μέθυ-*, etc.) are obviously prehistoric, and perfectly self-sufficient: there is no trace of either *pékūo-* or *médhuo-*. But the particular point we have in view is the identification of the *t* in the type *kít* 'making' with the suffix of the perfect passive participle in the type *krtó-* 'made.' The *t* of *-krt* is the so-called adscititious *t* which appears under certain circumstances at the end of roots in short *i*, *u*, and *ṛ*. Whatever its origin may be, it needs to be explained everywhere in the same way. Professor Streitberg, in deriving it from the same source as the perfect passive participle suffix *-to*, ignores completely the fact that the same extension of the root appears in the compound gerund in *-ya* (*-kṛtya*, *-jitya*, *-stútya*), the gerundives in *ya* (the same types), before the suffix *van* (*kṛtvan*, *jétvan*, *sútvan*),<sup>1</sup> and more sporadically in a variety of other formations. Would he derive *kṛtvan* from a stem *\*kértoueno-*, and the like? At any rate, some mention of these noun-classes was due in connection with an attempt to show that *-kít* 'making' is identical with *krtó* 'made.' One need but look at the compound *çrút-karṇa* (frequent in the Rig-Veda) 'having listening ears' to realize how different fundamentally the two types are: a word *\*çrutá-karṇa* could mean 'having famous ears' or the like, but under no circumstances 'having listening ears.' And this remains true notwithstanding the fact that the boundary between active and passive function is at times evanescent in noun-formations, especially in derivatives from the so-called neuter verbs.

We may abstain here from cataloguing the misgivings aroused by many more individual applications of the theory,<sup>2</sup>

<sup>1</sup> Cf. Avestan *kərəþwan* 'doer,' *stərəþwant* 'levelling,' *vī-bərəþwant* 'divided, or transferred,' Jackson, Avestan Grammar, §§ 820-1.

<sup>2</sup> Let us merely note in passing that the stem *gavayá* 'bos gavaeus, a variety of the common bull' is not well chosen to prove the actual existence of a dissyllabic stem *gouyo-* (p. 321). The form is a noun from a denominal stem *gav-aya* 'be like a bull,' formed, doubtless, in specifically Hindu times. According to the author's own showing, it would have to appear as *\*gāvayá*, if it were a prehistoric formation (see p. 364 ff.).

and turn rather to its central point, the hearth upon which it was kindled. The monosyllabic nominatives, such as *gōús* 'cow,' *diēús* 'sky,' *nāús* 'ship' (Streitberg *nāūs*), *bhōrs* 'thief' (*φῶρ*, *fūr*), *uóqs* 'voice,' etc., are obviously the kind of material that suggested the theory in the first instance. The three diphthongal stems for 'cow,' 'sky,' and 'ship,' especially, are the 'swell' examples, to which the author reverts repeatedly as the ideal realizations of the theory. He starts with a perfectly legitimate observation of Professor Wheeler, that these radical nouns are paralleled in very many instances by oxytone *o*-stems with similar function. Thus by the side of *κλώψ* we have *κλοπός*, by the side of *φῶρ* we have *φορός*, and so quite a number of others. But these cases are by no means numerous, considering the broad scope of each formation taken by itself. And they are no more to be regarded as proof for the original identity of the two types than the functional similarity of the abstracts in *-os*, *-es* and those in *-m̃h*. Thus we have *ρέφος* and *ρέυμα*; *ζεῦγος* and *ζεῦγμα*; *κλέφος* and Goth. *hlīuma*, Sk. *çrómata*; Sk. *mānas* and *mānma*; *γένος*, Sk. *jānas* and *jānma*, and a host of others. Indeed, the absolute identity of the meaning of the types *κλώψ* and *κλοπός* is hardly certain. The radical forms are to our feeling personalized nouns, while the oxytone *ó*-types are true adjectives. They remind one of such couplets as Greek *στραβός* 'squinting' and *Στραβών* 'squinter' ('squinty,' as it were), and many others. In general it may be regarded as hazardous to identify noun-forms because they come under common functional categories, such as nouns of agency, or nouns of action.

But curiously enough, Professor Streitberg's theory is not fulfilled by the type *κλοπός* at all, but on the contrary paroxytones are needed unto its satisfaction. He does not derive *κλώψ* from *κλοπός*, but from *\*κλόπος*. Now, one of the most luminous facts in the proethnic history of accentuation is, that in a considerable variety of oxytone and paroxytone couplets, the oxytones are nouns of agency, the paroxytones (or barytones) nouns of action, or medio-passives. Thus *φόρος* 'tribute,' Sk. *bhāra-s* 'act of carrying, burden' : *φορός*

'carrying.' Of *s*-stems  $\psi\epsilon\ddot{\upsilon}\delta\omicron\varsigma$  :  $\psi\epsilon\upsilon\delta\acute{\eta}\varsigma$ ; Sk. *āpas*, Lat. *opus* 'work' : *apās* 'working.' Of *n*-stems, Sk. *dāman* 'gift' : *dāmán* 'giver'; cf.  $\chi\acute{\epsilon}\iota\mu\alpha$  :  $\chi\epsilon\iota\mu\acute{\omega}\nu$ . The principle is keenly felt as well in proethnic times, as in the individual life of several languages of the family; cf. the same discrimination carried out secondarily in  $\delta\acute{\omicron}\lambda\iota\chi\omicron\varsigma$  'race-course' :  $\delta\omicron\lambda\iota\chi\acute{\omicron}\varsigma$  'long';  $\acute{\omega}\chi\rho\omicron\varsigma$  'pallor' :  $\acute{\omega}\chi\rho\acute{\omicron}\varsigma$  'pale,' etc. He does not as much as stop to waive aside this distinction, but derives  $\phi\acute{\omega}\rho$  'thief' from  $\phi\acute{\omicron}\rho\omicron\varsigma$ , not  $\phi\omicron\rho\acute{\omicron}\varsigma$ . And this brings us to the final difficulty. Why does *bhóros* ( $\phi\acute{\omicron}\rho\omicron\varsigma$ ) exist at all as a proethnic word, safely propagated through the language, if *bhóros* — another *bhóros*, or the same *bhóros*, we are not explicitly told — changed to *bhórs*? In fact, the author does not state at any time under what precise conditions his groups of two successive syllables contract to a long, or to a drawled monosyllable, under what conditions the post-tonic vowel is thrown out, compensating the tonic vowel by an additional mora. That is left — intentionally doubtless — an open question. The bearing of Professor Streitberg's theory upon the oblique cases of the radical consonantal declensions must not be overlooked. It works a curious result in two ways. First, they have one and all become heteroclitic. The nominatives singular are all of the second declension (of the classical grammars), all the rest of the cases are of the third declension. Secondly, the accentuation of the oblique cases *γομ-ός* *διμ-ός*, *pod-ός*, etc., which fairly clamor for a concomitant type with accent upon the root and correspondingly strong vocalism in the manner of *Foīde* : *Fiδμέν*, of  $\beta\eta\text{-}\nu$  :  $\beta\alpha\text{-}\tau\acute{\omicron}\varsigma$ ;  $\phi\eta$  :  $\phi\alpha\text{-}\mu\epsilon\nu$  and many others, is left without this necessary basis. The strong casus rectus, or casus recti, which alone can furnish a tangible background for weak-vowelled casus obliqui, are blown out of existence, one knows not whither, nor why.

With unfeigned regret, we acknowledge our inability to accept the author's ingenious and learned argument, in so far as it concerns the origin of the long vowels of the 'dehnstufe.' But one does not do justice to Professor Streitberg's investigation without adding that it contains, in detail, many captivating observations, destined to enrich permanently our

stock of knowledge on the subject. As a specimen of what may be done by way of stimulating writing, and as an exhibition of the most refined knowledge of all the questions that enter into the discussion of the early history of the phonetics of Indo-European speech, the essay will remain memorable. And its amiable, conciliatory tone, its lucidity of thought and style, leave in the reader the impression that the stiffest themes in Comparative Grammar may be presented with the attractiveness that belongs by rights to every form of historical inquiry.